

MARSHALL STAR

Serving the Marshall Space Flight Center Community

May 21, 2009



Astronaut John Grunsfeld, positioned on a foot restraint on the end of Atlantis' remote manipulator system, participated in the mission's fifth and final spacewalk May 17.

Five successful spacewalks at Hubble

Shuttle Atlantis landing set May 22

From combined reports

After five successful spacewalks at the Hubble Space Telescope, the STS-125 crew is in the home stretch of its mission. Landing is scheduled for May 22 at the Kennedy Space Center, Fla.

Space shuttle Atlantis undocked from the orbiting telescope May 19 and slowly backed away as the seven crew members said farewell to the orbiting telescope for the final time.

During the mission, astronauts performed back-to-back spacewalks to install state-of-the-art science instruments on Hubble. These improvements increase the telescope's discovery capabilities by up to 70 times and extend its lifetime through at least 2014.

For complete details about the spacewalks and the STS-125 mission, visit http://www.nasa.gov/mission_pages/shuttle/main/index.html.

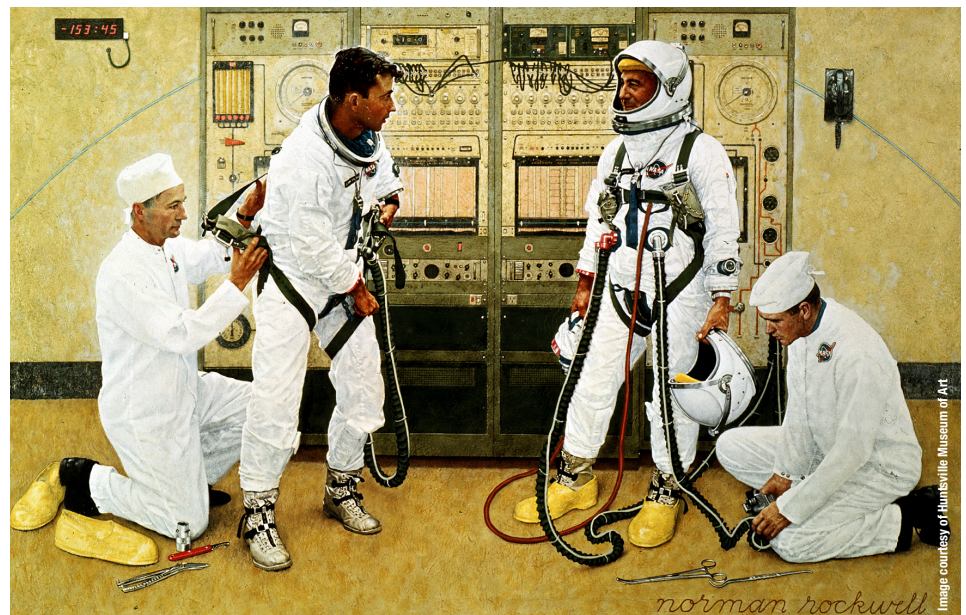
Huntsville Museum of Art to open NASA exploration exhibit May 24

The Huntsville Museum of Art will launch an exhibit May 24 called "NASA Art: 50 Years of Exploration" – promising an experience with special meaning to Marshall Space Flight Center team members and the Huntsville community.

The exhibit will feature drawings, paintings, photographs and sculpture capturing nearly five decades of the U.S. space program – major milestones and captivating human moments, some rarely captured in such fashion. Such internationally renowned artists as Norman Rockwell and Andy Warhol, photographers Annie Leibovitz and William Wegman, and video installation artist Nam June Paik are among the contributors.

The collection dates to 1962, when

See Art on page 5



Norman Rockwell's "Grissom and Young" depicts astronauts John Young, second from left, and Gus Grissom suiting up for the first Gemini program flight in 1965 with help from two NASA technicians. The painting, part of the "NASA Art: 50 Years of Exploration" exhibit at the Huntsville Museum of Art, is on loan from the Smithsonian National Air and Space Museum in Washington and is licensed by Norman Rockwell Licensing of Niles, Ill.

Marshall's Dan Dumbacher named acting deputy associate administrator of Exploration Systems Mission Directorate



Dan Dumbacher

NASA Headquarters

The Exploration Systems Mission Directorate has announced the appointment of Dan Dumbacher as acting deputy associate administrator.

Dumbacher is director of the Engineering Directorate at the Marshall Space Flight Center where he leads an organization of 1,400 civil servants and 1,200 contractors responsible for the design, test, evaluation and operation of hardware and software associated with space transportation systems and science instruments. He has also served as deputy director for the Ares Projects at Marshall and in the Safety & Mission

Assurance Office at the center. He has served in numerous other capacities at Marshall in the Engineering Directorate and the Space Shuttle Program.

Dumbacher joined NASA in 1979 as an engineer for liquid propulsion systems at Marshall, where he led shuttle main engine systems and component analysis activities. From 1985 to 1987, he served as chief of air vehicle integration for the Exo-Atmospheric Reentry Interceptor System at Teledyne Brown in Huntsville and Sunnyvale, Calif.

"ESMD is privileged to benefit from Dan's expertise and breadth of NASA experience," said Doug Cooke, associate administrator of the Exploration Systems Mission Directorate. "We look forward to having him on the team during this important time for the directorate."

Marshall responsible for propulsion, hardware production of abort motor

Abort motor delivered for Orion testing at White Sands

One of the three motors used to test the safety system for the Orion crew exploration vehicle arrived May 13 at the U.S. Army's White Sands Missile Range in New Mexico after a 14-hour journey from Salt Lake City. The motor was manufactured by Alliant Techsystems Inc. at the Promontory and Bacchus facilities in Utah.

The motor soon will be fully integrated with the other system motors in preparation for the Pad Abort 1 flight test this fall.

The launch abort system is designed to protect the crew onboard Orion by pulling the craft to safety in the event of an emergency on the launch pad or during the initial phase of ascent.

"This is a big win for the Orion launch abort systems team, and a major delivery for our prime contractor, Lockheed Martin," said Marshall Space Flight Center engineer Steve Gaddis, deputy project manager for the Orion launch abort system. "The abort motor is the big motor for the launch abort system, producing 500,000 pounds of thrust. We are excited to see this progress and know that our first Orion full-scale flight test, Pad Abort 1, is not far behind."

The Marshall Center is responsible for the

propulsion, hardware production, and safety and mission assurance of the abort motor.

The flight test will be conducted using a fully integrated launch abort system, which includes the abort motor that first pulls Orion from danger, an attitude control motor to provide directional control, and the jettison motor to separate the system from the crew module. The test at White Sands will use a mockup of the Orion crew module.

The main abort motor will ignite, producing over a half-million pounds of thrust within milliseconds to pull the Orion mockup from the platform. Once the crew module has been reoriented for landing, the launch abort system will be jettisoned and parachutes will slow the capsule's descent to a safe landing.

The abort motor stands over 17 feet tall, measures 3 feet in diameter and is equipped with a unique reverse flow manifold that includes four head end turn flow nozzles. The manifold is placed at the forward end of the motor. Rocket plumes exit all four nozzles at 155 degrees, instead of straight out the aft end, creating forward thrust. The reverse flow manifold, which was designed to provide the necessary plume clearance between the system and the Orion



Engineers inspect an Orion launch abort system motor.

crew capsule, is the first of its kind for a high-thrust rocket motor system on a U.S. human spaceflight vehicle.

In preparation for this test, a series of motor test fires and component tests have been conducted, including a full-scale abort motor test last fall. Following the Pad Abort 1 test flight, additional ground and flight tests for the launch abort system are planned over the next several years to support the first operational flight of Orion and Ares I.

The Ares I, the first launch vehicle in NASA's Constellation Program, will send explorers to the International Space Station, the moon and beyond in coming decades. NASA's Johnson Space Center in Houston manages the Constellation Program, which includes the Ares launch vehicles and the Orion crew spacecraft. The Marshall Center manages the Ares Projects.

Marshall Center's Juan Carlos Atayde honored with NASA Cost Estimating Rising Star Award

By Megan Norris Davidson

Juan Carlos Atayde, a Marshall Space Flight Center cost estimator who joined NASA in 2008 after receiving a bachelor's degree in industrial engineering, has been named recipient of the NASA Cost Estimating Rising Star Award for outstanding performance in engineering cost estimating and analysis.

The Rising Star honor – established in 2007 by the Cost Analysis Division at NASA Headquarters in Washington – recognizes young individuals just beginning their engineering cost careers either at Headquarters or a center for their talent, achievements and leadership in the technical areas of cost estimating.

Atayde, with the Engineering Cost Office, part of the Office of Strategic Analysis & Communications, is a graduate of New Mexico State University in Las Cruces. He was nominated for the award by his supervisor, Andy Prince. Nominees must be cooperative education students or current NASA civil servants in cost estimating fields.

"Juan has gone from being a recent college graduate and new hire to a competent cost estimator in only one year," Prince said. "He willingly accepts every challenge he is given, and has proven himself to be a valuable member of the Engineering Cost Office team."

Atayde develops cost estimates and cost risk analyses in support of the Ares I and Ares V project for both the development and production phases. Ares I is an in-line, two-stage rocket

that will transport the Orion crew exploration vehicle to low Earth orbit. The Ares V cargo launch vehicle will serve as NASA's primary vessel for safe, reliable delivery of large-scale hardware to space. Atayde's estimates have been used to support the Thrust Oscillation Focus Team, which develops options to mitigate potential thrust oscillations in the Ares I first stage. Thrust oscillation is a common characteristic of all solid rocket motors, characterized by a series of increasingly quick pulses that occur late in first-stage powered flight. Atayde also gives insight into recurring costs for the Ares I upper stage.

The award was presented at the NASA Cost Symposium awards banquet at NASA's Kennedy Space Center, Fla. The symposium promotes professional development in the engineering cost estimating field and recognizes outstanding performers in the cost community.

"Winning this award fuels my enthusiasm for NASA even more," said Atayde. "This honor is a testament to the working chemistry and solidarity of our team in the Engineering Cost Office. I am learning from their experience, so if I am doing a good job, they are doing a great job."

An active member of the Hispanic professional community, Atayde is chairperson of Marshall's Hispanic Advisory Group, which supports Special Emphasis Programs under Marshall's Office of Diversity and Equal Opportunity. The programs assist in the recruitment, selection, development



Juan Atayde

and career advancement of minorities at Marshall. Special emphasis events – like Hispanic Heritage Month activities – are held each year, and an advisory group supports and coordinates the activities.

As chairperson, he has helped organize various events, including the 2008 NASA Hispanic Youth Conference, a cultural and motivational workshop. It is designed to inspire Hispanic young people to complete their high school education and pursue college careers, primarily in math, science and engineering. He also is a member of the Society of Hispanic Professional Engineers, an organization with a mission to enhance and achieve the potential of Hispanics in engineering, math and science.

Davidson, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

A special thanks from Office of Human Capital, Academic Affairs Office

The Academic Affairs Office and the Office of Human Capital would like to express our thanks and gratitude to all civil service employees

and contractors who volunteered during the 16th NASA Great Moonbuggy Race on April 3-4 at the U.S. Space & Rocket Center in Huntsville.

We appreciate your hard work and willingness to support the event. Thanks again for helping to make the race a success.

Marshall Center's 'Take Our Children to Work Day' set for June 4

The Marshall Space Flight Center will host its annual "Take Our Children to Work Day" on June 4. All Marshall Center team members with children in grades 3-12 are invited to participate.

Registration will open in the Building 4200 lobby at 7:30 a.m. Audrey Robinson, director of the Office of Diversity and Equal Opportunity, will kick off the event at 8 a.m. in Morris Auditorium, welcoming children and parents and outlining the day's activities.

Kids will choose from numerous sessions throughout the day in which they can construct a galaxy montage; learn about the complex and life-sustaining behavior of Earth's sun; tour various Marshall facilities; and watch the animated movie "Fly Me to the Moon" and episodes of the HBO series "From the Earth to the Moon."

The Huntsville Police Bike Patrol and McGruff the Crime Dog also will be on hand to teach participants about bicycle,

skateboarding and helmet safety. Those attending will be eligible for a drawing to win a bicycle. Representatives of Redstone Federal Credit Union will speak about fiscal responsibility, and Redstone Arsenal Fire Department officials will talk with kids about fire safety.

The day's activities will culminate at 1:30 p.m. with a scale model rocket launch, sponsored by the Huntsville Area Rocketry Association, behind Building 4203.

The Office of Diversity and Equal Opportunity is seeking volunteers to support the event. Marshall Center team members may volunteer by e-mailing their name and phone number to Abbie Johnson at abbie.j.johnson@nasa.gov or Phyllis Olinger at phyllis.y.olinger@nasa.gov. Volunteer registration ends June 2.

For a complete schedule of events and other information about "Take Our Children to Work Day," visit <http://eo.msfc.nasa.gov/c2w/>.

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue, May 28, is 4:30 p.m. Thursday, May 21.

Miscellaneous

Trailer, 16 feet, checker plate flooring, new tires. \$1,500. 425-1762

Two Bonnaroo tickets, \$525. 882-2928

Cherry changing table, pad, \$75; Baby Einstein Neptune/Aquarium floor gyms, \$35 each. 880-3737

1795 Josef Klotz violin, \$2,100 obo. 830-1374

MTD 21-inch rear and side discharge mulching mower, \$50 obo. 348-1878

Kelty Tour child carrier, asking \$75. 684-9200

Queen Ann sofa, \$700 obo. 722-5282 after 5 p.m.

Belkin Easy Transfer Cable and Software for transferring data to Vista PC, \$25. 509-3928

Three Indy 500 tickets, third turn, high row, \$85 each. 881-1249

Microwave, white, \$40; electric stove, smooth cook top, white digital readings, \$200 obo. 961-0196

Blue Heeler puppies, tails docked, wormed, shots, starter food, health record, \$150. 498-0309

Lane five-piece leather sectional sofa, dark brown, chaise lounge, \$2,000. 348-8316

Vehicles

2008 Harley Road King Classic, anti-lock brakes, extra chrome, passenger backrest, 3,000 miles, \$17,500. 656-7891

2007 Sidney Outback 28-foot Fifth Wheel Camper, \$20,500. 679-2410

2007 Tahoe ski boat, 8 hours, jackets, equipment. 990-3162

2006 Mini Cooper S, blue/white stripes, 48/48 factory warranty, 17,500 miles, \$19,500. 714-3742

2006 VW Jetta TDI, five speed, alloy wheels, new tires, 76k miles, \$15,000. 931-993-7768

2006 Chrysler Pacifica Touring, third row, red, 23k miles, \$14,500. 797-1300

2005 Honda Element EX, five speed, 73k miles, \$11,500. 278-1974

2005 Ford Ranger Edge, Westin brush guard, around 70k miles, \$8,000 firm. 513-2350

2002 Prowler Fifth Wheel, slide out, sleeps eight, \$13,990. 721-1260

2002 Kawasaki four wheeler, 250cc, 2WD, red, \$2,000. 431-5950

2000 Mercedes ML430 SUV, white, sunroof, leather, entertainment package, \$7,995 obo. 520-2802

1998 Volvo S70, leather, 179k miles, \$2,650 obo; 1985 Land Cruiser I6, 240k miles, \$5,650 obo. 658-8241

1997 Harley Dyna Glide convertible, gray/black, 15,300 miles, \$8,000. 728-4145

1997 Mazda Millenia, loaded, \$3,500 obo. 881-0252

1996 Subaru Legacy, for parts, runs, leaks oil, no reverse, A/C, \$500. 975-9480

1991 Chevrolet Silverado pickup truck, 224k miles, \$2,100. 533-7234

1984 E-150 high-top conversion van, 351-W, carburetor needs work, \$600. 520-5014

Wanted

Houses/offices to clean, available evenings/weekends. 777-8595 please leave message

Hand dumbbells, hexagon shaped. 321-543-5950

Wood four-drawer filing cabinet, preferably cherry. 772-7222

Cheap/free kitchen wall cabinets, will pick up. 230-2521

Free

Mix-breed puppies, will be medium sized, ready to go. 631-8228

Found

A 1/4-inch drill bit, May 4, Building 4200. 544-4680

Earring, silver, shell-shaped, near Building 4600. 777-8229

Lost

One David Yurman pierced earring, silver with gold and diamonds, lost in March in vicinity of 4200. 489-5557

Shuttle Buddies to meet May 25

The Shuttle Buddies will meet at 8:30 a.m. May 25 at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757.

Marshall, Redstone to continue Asian Pacific American Heritage Month celebrations

Events marking Asian Pacific American Heritage Month continue at the Marshall Space Flight Center, honoring the contributions of people of Asian and Pacific Islander heritage to NASA, the U.S. armed forces and the nation.

Team Redstone, which includes the Marshall Center and U.S. Army organizations on Redstone Arsenal, will hold a heritage celebration May 27 at 10 a.m. at the arsenal's Sparkman Center. Grant Ichikawa, a decorated U.S. military veteran who served in World War II and the Korean War and was assigned to the U.S. Consulate in Vietnam until the evacuation of Saigon in 1975, will speak on "Leadership to Meet the Challenges of a Changing World." Korean, Thai and Chinese food will be served during the event, which will include demonstrations of cultural dance and martial arts.

On May 28, Marshall Center historian Mike Wright will host a Lunch and Learn at noon in Building 4200, Room P110. He will speak about historic contributions by persons of Asian and Pacific Islander heritage.

For more information about the events, contact Willie Love at 544-0088.



Marshall Center engineer Caroline Wang demonstrates traditional Far Eastern painting techniques. Wang was featured at a Lunch and Learn event May 14, part of Marshall's annual Asian Pacific American Heritage Month celebration.

Art *Continued from page 1*

NASA Administrator James E. Webb asked a group of artists to illustrate and interpret the agency's missions and projects. Since then, the NASA Art Program has welcomed conceptual artists, painters and even musicians, who covered the Mercury, Gemini, Apollo, Skylab and Shuttle eras. Given unprecedented access, they toured NASA field centers, talked at length with astronauts, engineers and other members of the NASA team, and spent time on launch pads and in research laboratories to capture the essence of NASA's mission.

"I think this exhibition should raise a swell of pride in all of us," said Jenny

Lane, communications manager of the museum. "Through it, you can really see the evolution of the space program, which correlates in my mind to the evolution of man's ability to imagine solutions to seemingly impossible problems."

The NASA art exhibit will run through Aug. 16. It is organized by NASA and the Smithsonian Institution Traveling Exhibition Service, in cooperation with the Smithsonian's National Air and Space Museum.

The Huntsville Museum of Art is in Big Spring International Park, 300 Church St., in downtown Huntsville. It is open Tuesday, Wednesday, Friday

and Saturday from 10 a.m. to 5 p.m., Thursday from 10 a.m. to 8 p.m. and Sunday from 1 to 5 p.m.

The exhibit is free to museum members and children under 6. Admission is \$7 for adult non-members and \$3 for children 6-11. Discount admission of \$6 is available with valid identification for visitors 60 and older, educators, students and members of the military.

NASA employee and other special discounts also are available. Visit <http://www.hsvmuseum.org> for discount information, news about special events tied to the NASA art exhibit or to learn more about the museum.

Obituaries

James H. Chesteen, 80, of Rogersville died April 28. He retired from the Marshall Center in 1981 as an aerospace engineer supervisor. He is survived by his wife, Diane Chesteen.

Willard L. Trehwitt, 87, of Huntsville died April 29. He

retired from the Marshall Center in 1993 as an aerospace engineer. He is survived by his wife, Sue Jones Trehwitt.

James Robert Sandlin, 81, of Huntsville died April 29. He retired from the Marshall Center in 1985 as a photographer.

'Focus on Marshall' wins Hermes Creative Award

"Focus on Marshall," the Marshall Space Flight Center's monthly video program, has been recognized by the Association of Marketing and Communications Professionals with a platinum 2009 Hermes Creative Award – the organization's top award.

Hermes Creative Awards is an international competition for creative professionals involved in the concept, writing and design of traditional materials and programs, and emerging technologies. Entries are from government, corporate marketing and communication departments, advertising agencies, public relations firms, design shops, production companies, Web-based innovators and freelancers.

"Focus on Marshall" won for the June 2008 episode about Marshall's development of the Water Recovery System for the International Space Station that turns wastewater into drinking water. The episode also featured a segment on the services provided by the NASA Exchange at Marshall.

The programs' production team includes host Lori Meggs of AI



"Focus on Marshall" hosts Bill Hubscher, left, and Lori Meggs.

Signal Research Inc., supporting Marshall's Public and Employee Communications Office; and host Bill Hubscher, producer Bob Moder, editor Lee Erickson and videographers Carver Myhand and Tyson Eason, all Honeywell Technology Solutions Inc., employees supporting Marshall Television Services.

"Focus on Marshall" was created three years ago by the Office of

Strategic Analysis & Communications to strengthen internal employee communications and to build appreciation across the center for Marshall's exciting work in the labs and test areas and in the program, project and mission offices," said Meggs. "It features Marshall's dedicated, talented engineers and scientists who are making significant contributions to NASA's mission and the exploration of space."

The contest was judged by the Association of Marketing and Communication Professionals of Arlington, Texas.

"To be recognized by a professional organization for creative work at Marshall is very rewarding," said Moder. "I'm very proud of our team and for the programs we consistently produce for Marshall and NASA."

"Focus on Marshall" airs monthly on Marshall TV, and is seen on NASA TV and the NASA portal. To see the winning entry and other programs, visit <http://msvictor3.msfc.nasa.gov/STREAMING/ACCORDENT/HONEYWELL/FOM/FOM026/WM.html>.

Marshall to transition to new telephone voicemail system this summer

Beginning this summer, the Marshall Space Flight Center will transition to a new telephone voicemail system.

Details are being finalized. Additional information – including specific transition dates and contact numbers to call for questions – will be published in the Marshall Star and Inside Marshall as details become available.



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